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REMOVAL ACTION WORK PLAN

Drum Stabilization and Characterization at Former New Brunswick Paving Area

Cornell-Dublier Electronics Site
South Plainfield, New Jersey
Administrative Order II-CERCLA-97-109

Prepared for:

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Submitted to:

U.S. Environmental Protection Agency
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1.0 INTRODUCTION

This Drum Stabilization and Characterization Plan ("Plan") has been prepared in response to EPA's discovery of twelve drums and several small containers at the Cornell-Dubilier Electronics Site ("Site") on May 3rd, 2000 during site clearing in preparation for CERCLA Remedial Investigation activities.

According to EPA's notification letter, "five drums appear to have contents and one drum is bulging and appears to be under pressure." EPA has requested that a plan be prepared immediately to address these drums. This plan therefore responds to the above matter, and sets forth the proposed action to stabilize the subject drums and containers, contain drum contents released, and characterize the contents for appropriate waste management.

1.1 Project Organization

Table 1 - Project Directory identifies the organizations and key personnel involved in the removal action activities, as well as their respective contact information.

Table 1 - Project Directory

Project Team	Contact Information
<p>Oxford Environmental, Inc. 43 Route 46 East, Suite 702, Pine Brook, NJ 07058</p> <ul style="list-style-type: none"> ▪ Facility Coordinator - responsible for overall coordination and oversight of project activities. ▪ Project Leader - responsible for on-site supervision and execution of field activities. 	<p>Main Office # (973) 244-0600 Fax # (973) 244-0600</p> <p><u>Timothy Francisco</u> Pager # (973) 419-3658 Cell # (201) 988-6885</p> <p><u>Bill Bilgeshouse</u> Pager # (973) 561-0521</p>
<p>AWT Environmental Services, Inc. P.O. Box 128, Sayreville, NJ 08872</p> <ul style="list-style-type: none"> ▪ HAZMAT Contractor - responsible for providing high hazard crew, including hazardous materials chemist. 	<p>Main Office # (732) 613-1600 Field Supervisor - TBD</p>
<p>Accredited Laboratories, Inc. Foot of Pershing Avenue, Carteret, NJ 07008</p> <ul style="list-style-type: none"> ▪ Environmental Laboratory - responsible for providing sample containers, and analytical services. 	<p>Lab Phone # (732) 541-2025</p>

2.0 SCOPE OF WORK

Oxford will retain the services of AWT Environmental Services, Inc. of Sayreville, New Jersey, a HAZMAT subcontractor, to stabilize the drums for sampling and characterization. Field activities shall be accomplished in accordance with the work procedures described in this plan.

2.1 Existing Site Conditions

There are a total of twelve (12) drums located within the former New Brunswick Paving area. Several other small containers are present in the areas of drums. Seven drums are empty and five drums have contents, of which one appears to be under pressure as indicated by "bulging." This pressurized drum shall be opened carefully to slowly release the pressure.

2.2 Field Screening

The identified drums, containers and the immediate area shall be surveyed by a hazardous materials chemist using field screening instrumentation such as a photo-ionization (PID) detector, Draeger tubes, combustible gas monitor and a HAZSCAN to determine hazard characteristics (such as pH, cyanide and sulfide reactivity, water solubility, hexane solubility, oxidizing potential). The results of the field screening will provide sufficient information for sampling drum contents, staging compatible wastes and identify soil contamination (spills, leaks, staining).

Drum contents will be sampled using drum thieves (glass rods), and transferred into sample containers. Samples will be analyzed for:

- 1) Flashpoint
- 2) TCLP Metals
- 3) TCLP VOAs
- 4) PCBs
- 5) Total VOAs

In addition, samples shall be analyzed for other appropriate parameters based on information obtained field screening results, container labels or markings.

2.3 Drum Handling & Storage

The deteriorated drums shall be segregated from the intact drums and packaged into over-pack drums. Care shall be taken to ensure that drum contents do not spill or leak into the soil. This shall be accomplished by staging the drums on to polyethylene liners and into salvage containers.

Any drum that displays signs of physical inadequacy will be over-packed prior to shipment. Drums will be securely tightened to ensure that no waste materials will spill during loading or transportation activities. Drums will also be properly labeled prior to shipment. Drums will be loaded onto a box truck via a drum dolly or mechanical hoist. The box truck will remain on paved areas during all loading procedures. This will eliminate the need for vehicle decontamination prior to exiting the site. . All appropriate manifests / documentation will be provided to EPA upon receipt from the disposal facility.

2.4 Disposal Facility

Upon completion characterization of drum contents and receipt of analytical results, Oxford shall propose and identify the appropriate disposal facility(ies) licensed and approved to accept the specific waste stream.

3.0 FIELD OPERATING PROCEDURES

3.1 The Buddy System

Work in the Exclusion Zone shall be conducted using the buddy system. Each buddy in a work team will be responsible to:

- 1) Provide his or her partner with assistance.
- 2) Observe his or her partner for signs of chemical or heat exposure.
- 3) Periodically check the integrity of his or her partner's protective clothing.
- 4) Notify the Site Manager or others if emergency help is needed.

The buddy system alone may not be sufficient to ensure that help will be provided in an emergency. At all times, workers in the Exclusion zone will be in line-of-sight contact or communications contact with the Command Post Supervisor or backup person in the Support Zone.

3.2 Communication Systems

Two sets of communication systems will be established: internal communication among personnel on site, and external communication between onsite and offsite personnel. Internal communication shall be used to:

- 1) Alert team members to emergencies.
- 2) Pass along safety information, such as the amount of air time left before the next rest period, air change, heat stress check, etc.
- 3) Communicate changes in the work to be accomplished.
- 4) Maintain site control.

Note: Verbal communication at a site can be impeded by onsite background noise and the use of personal protective equipment. For example, speech transmission through a respirator can be poor, and hearing can be impaired by protective hoods and respirator air flow. For effective communication, commands must be pre-arranged. In addition, audio or visual cues can help convey the message. The most important thing is that signals are agreed to in advance.

All communication devices used in a potentially explosive atmosphere must be intrinsically safe and not capable of sparking, and will be checked daily to ensure that they are operating.

An external communication system between onsite and offsite personnel will be established to:

- 1) Coordinate emergency response.
- 2) Report to management.
- 3) Maintain contact with essential offsite personnel.

The primary means of external communication are cellular phone and radio (Nextel). If cellular phones and radios are not available, all team members should know the location of the nearest telephone, and the necessary telephone numbers posted in the Support Zone.

3.3 Work Site Preparation

Eliminate physical hazards from the work area as much as possible including:

- 1) Ignition sources and flammable hazard areas;
- 2) Exposed or underground electrical wiring, and low overhead wiring that may entangle equipment;
- 3) Sharp or protruding edges, such as glass, nails, and torn metal, which can puncture protective clothing and equipment and inflict puncture wounds;
- 4) Debris and weeds that obstruct visibility;

3.4 Standing Orders

For Personnel Entering the Contamination Reduction Zone:

- No smoking, eating, drinking, or application of cosmetics in this zone.
- No matches or lighters in this zone.
- Check in at the entrance Access Control Point before you enter this zone.
- Check out at the exit Access Control Point before you leave this zone.

For Personnel Entering the Exclusion Zone:

- No smoking, eating, drinking, or application of cosmetics in this zone.
- No matches or lighters in this zone.
- Check in at the entrance Access Control Point before you enter this zone.

- Check out at the exit Access Control Point before you leave this zone.
- Always have your buddy with you in this zone.
- Wear an SCBA in this zone.
- If you discover any signs of radioactivity, explosively, or unusual conditions such as dead animals at the site, exit immediately and report this finding to your supervisor.

4.0 WORK ACTIVITY AND TEMPORARY WORK ZONES

The following table and section summarizes the identified work activity and work zones in which contaminated materials may or will be encountered during removal action operations.

Table 2 - Summary of Work Activity

<i>Work Area Location</i>	<i>Quantity</i>	<i>Activity</i>
Former New Brunswick Paving Area	12 Drums (7 empty) plus undetermined number of small containers	<ul style="list-style-type: none">▪ Drum Stabilization▪ Drum & Container Sampling▪ Salvage Drum & Over-Packing▪ Drum Loading▪ Transportation & Disposal

Due to the likely presence of contaminants within the identified work areas above, work shall be performed in accordance with the existing Health and Safety Plan (HASP) as well as the below detailed. Accordingly, appropriate exclusion, decontamination and support zones shall be demarcated to prevent any contaminated media from migrating off-site.

4.1 Temporary Work Zones

Temporary work zones shall be established prior to working in any of the locations identified in Table 2 - Summary of Work Activity, to prevent the migration of contaminants off-site. This will be accomplished by creating three separate work zones within work area location. These three zones are:

- 1) Exclusion Zone
- 2) Decontamination Reduction Zone
- 3) Support Zone

Each of the above zones has task specific activities performed within them, which are discussed below. In addition, temporary facilities will be used in each work area location to support the requirements of the HASP.

The following sections briefly describe the activities to be performed within each work zone, as well as, the use of the temporary facilities.

4.1.1 Exclusion Zone

The exclusion zone or "hot zone" is the immediate area in a work location in which work performed will encounter contaminants. For the purpose of this project, the work area locations identified in Table 2 will be designated the exclusion zone. This area will be delineated with barricade tape and/or cones. The exclusion zone will have a single entrance / exit location so as to control access to the contaminated work zone. This access will also be utilized for equipment and material transportation into and from the exclusion zone and will directly transition into the decontamination zone. Due to the contaminants present within the exclusion zone, no temporary facilities are located within it.

The Exclusion Zone is the area where the drums and containers are located. The primary activities to will be performed in the Exclusion Zone include:

- 1) Drum/container stabilization (i.e. depressurizing);
- 2) Drum/container contents characterization and sampling; and
- 3) Drum movement, staging and materials bulking;
- 4) Soil sampling, excavation and stockpiling.

The outer boundary of the Exclusion zone, called the Hotline, shall be established as follows:

- Visually survey the immediate site environs.
- Determine the locations of :
 - Hazardous substances
 - Drainage
 - Leachate
 - Spilled material
 - Visible discolorations
- Evaluate data from the initial site survey indicating the presence of :
 - Combustible gases
 - Organic and inorganic gases, particulates, or vapors
 - Ionizing radiation
- Evaluate the results of soil and water sampling.
- Consider the distances needed to prevent an explosion or fire from affecting personnel outside the Exclusion Zone.
- Consider the distances that personnel must travel to and from the Exclusion Zone.
- Consider the physical area necessary for site operations.
- Consider meteorological conditions and the potential for contaminants to be blown from the area.

- Secure or mark the Hotline.
- Modify its location, if necessary, as more information becomes available.

It should be clearly marked by lines, placards, hazard tape and /or signs; or enclosed by physical barriers, such as chains, fences, or ropes. Access Control Points shall be established at the periphery of the Exclusion Zone to regulate the flow of personnel and equipment into and out of the zone and to help verify that proper procedures for entering and exiting are followed. If feasible, separate entrances and exits shall be established to separate personnel and equipment movement into and out of the Exclusion Zone.

At the discretion of the Field Manager, the Exclusion Zone may be sub-divided into different areas of contamination based on the known or expected type and degree of hazard or on the incompatibility of waste streams. This allows more flexibility in safety requirements, operations, decontamination procedures, and use of resources.

The personnel working in the Exclusion Zone may include the Field Team Leader, the work parties, and specialized personnel such as heavy equipment operators. All personnel within the Exclusion Zone will wear the level of protection required by the Site Safety Plan. Within the zone, different levels of protection may be justified based on the degree of hazard presented. The level of personal protection required in each sub-area will be specified and marked.

The required level of protection in the Exclusion Zone will be LEVEL B personal protective protection. When appropriate, different levels of protection within the Exclusion zone shall be assigned to promote a more flexible, effective, and less costly operation, while still maintaining a high degree of safety.

4.1.2 Decontamination Zone

The decontamination zone or "contaminant reduction zone" acts as a buffer zone between the exclusion zone and the support zone. Personnel and equipment leaving the exclusion shall be required to pass through the decontamination pad to ensure that no loose contaminated soil is tracked out of the exclusion area into other portions of the Site. This can be achieved simply through the use of a boot wash and tire washing station. Decontamination liquid shall be added to the drums being disposed of off site.

Activities which will take place in the CRZ include:

- 1) Decontamination of equipment;
- 2) Decontamination of personnel;
- 3) Decontamination of sample containers;

- 4) Emergency response: transport for injured personnel (safety harness, stretcher), first-aid equipment (such as bandages, blankets, eye wash, splints, and water), containment equipment (absorbent, fire extinguisher);
- 5) Equipment re-supply: air tank changes, personal protective clothing and equipment (such as booties and gloves), sampling equipment (such as bottles and glass rods), and tools;
- 6) Sample packaging and preparation for onsite or offsite laboratories;
- 7) Worker temporary rest area: toilet facilities, bench, chair, liquids, and shade. Water and other potable liquids shall be clearly marked and stored properly to ensure that all glasses and cups are clean. Wash facilities shall be located near drinking facilities to allow employees to wash before drinking. Drinking, washing, and toilet facilities shall be located in a safe area where protective clothing can be removed. Facilities shall be cleaned and inspected regularly. Appropriate protective measures shall be taken by maintenance workers.
- 8) Drainage of water and other liquids that are used during decontamination.

Personnel within the CRZ shall be required to maintain internal communications, line-of-sight contact with work parties, work party monitoring (e.g., for air time left, fatigue, heat stress, hypothermia), and site security.

The required level of protection in the Decontamination Zone will be LEVEL B personal protective protection. When appropriate, different levels of protection within the Exclusion zone shall be assigned to promote a more flexible, effective, and less costly operation, while still maintaining a high degree of safety.

4.1.3 Support Zone

The support zone or "clean zone" is designated as the area in which removal activities will not encounter contamination. The Site Manager will be present in the Support Zone. Other personnel present will depend on the functions being performed, and may include the Project Team Leader and field team members who are preparing to enter or who have returned from the Exclusion Zone. The support zone contains temporary facilities such as:

- Command Post
- Equipment and material storage
- Parking areas

Personnel may wear normal work clothes within this zone. Any potentially contaminated clothing, equipment, and samples must be retained in the CRZ until decontaminated.

Support Zone activities include:

- Supervision of all field operations and field teams.
- Maintenance of communications, including emergency lines of communication.
- Recordkeeping, including accident reports, chain of custody records, daily logbooks, manifest directories and orders, medical records, personnel training records, site inventories, site safety map, up-to-date Site Safety Plans.
- Providing access to up-to-date safety and health manuals and other reference materials.
- Interfacing with the public: government agencies, local politicians, medical personnel, the media, and other interested parties.
- Monitoring work schedules and weather changes.
- Maintaining site security.
- Sanitary facilities.
- First-aid administration, medical emergency response and medical monitoring activities.
- Supply, maintenance, and repair of communications, respiratory, and sampling equipment.
- Replacement of expendable supplies.
- Storage of monitoring equipment and supplies.
- Sample shipment.
- Interface with home office.
- Maintenance of emergency telephone numbers, evacuation route maps, and vehicle keys.
- Coordination with transporters, disposal sites, and appropriate federal, state, and local regulatory agencies.

- Coordination and processing of environmental and hazardous waste samples. Copies of the sampling plans and procedures should be available for quick reference in the laboratory.
- Packaging of materials for analysis following the decontamination of the outsides of the sample containers performed in the CRZ. Shipping papers and chain-of-custody files should be kept in the Support Zone.
- Maintenance and storage of laboratory notebooks in designated locations in the laboratory while in use, and in the Support Zone when not in use.

Support Zone personnel are responsible for alerting the proper agency in the event of an emergency. All emergency telephone numbers, change for the telephone (if necessary), evaluation route maps, and vehicle keys will be kept in the Support Zone.

Support facilities shall be located in the Support Zone. To place these facilities, consider factors such as:

- Accessibility, Topography, open space available, locations of highways and railroad tracks, ease of access for emergency vehicles.
- Resources, Adequate roads, power lines, telephones, shelter, and water.
- Visibility, line-of-sight to all activities in the Exclusion Zone.
- Wind direction, Upwind of the Exclusion Zone, if possible.
- Distance, As far from the Exclusion Zone as practicable.

The recommended level of protection in the Support Zone will be LEVEL D personal protective protection. When appropriate, different levels of protection within the Support Zone shall be assigned to promote a more flexible, effective, and less costly operation, while still maintaining a high degree of safety.

5.0 POLLUTION PREVENTION AND CONTROL MEASURES

The following sections will detail the proper controls and procedures for management of contaminated materials generated in areas of contaminated soils and liquids, and to prevent non-permitted discharge of contaminants during removal operations.

5.1 Removal / Loading Operations

To prevent any contaminated soils from migrating off site the following procedures shall be followed:

Excavation equipment will remain within the exclusion zone in order to minimize possible transport of clinging soils and/or contaminated fluids. Dust suppression controls (water spraying) will be utilized during this activity. Upon completion of excavation activities, all heavy equipment will be decontaminated at the decontamination station.

If during the course of excavation, buried tanks and/or drums are encountered, the following procedures shall be implemented:

- 1) Stop work immediately and withdraw from the area.
- 2) Inform the EPA OSC of vessel location.
- 3) OSC and Facility Coordinator will visually inspect the area to determine the type of vessel (i.e. tank or drum), and document its condition.
- 4) Facility Coordinator will call the NJDEP Hotline at (877) WARN-DEP and report the incident.
- 5) The OSC, Facility Coordinator and HSO will then determine if work can safely continue within the vicinity of the vessel.
- 6) The Owner will then take necessary steps to remove the vessel and restore the area to its previous condition.

5.2 Dust Control

Due to the nature of the contaminants present at the Site, control of fugitive dust emissions during soil loading operations may be required. If the Field Manager or HSO deems it necessary to reduce the amount of airborne dust, the following control methods will be initiated.

- Wet excavation areas prior to and during excavation activities

- Clean impermeable surfaces (i.e. roadways) whenever dirt or mud is observed

5.3 Decontamination Solids and Liquids

During the course of removal activities, solid wastes in the form of PPE and decontamination liquids will be generated. PPE will be added to either the soil stockpile or the parts / soil drum scheduled for incineration. Decontamination liquids will be added to the sludge drums that are also scheduled for incineration.

6.0 DOCUMENTATION AND REPORTING

6.1 Daily Construction Log

In order to maintain accurate documentation of work activities, field sampling events, visitors, contaminated materials shipped for off-site disposal, a Daily Construction Log shall be maintained.

6.1.1 Soil Handling Activities

As part of the Daily Construction Log, detailed notes shall be kept of the soil handling activities performed at the site. Movement of contaminated disposed off-site shall be documented.

6.1.2 Manifests

Hazardous waste manifests will be completed which track the movement of stockpiled soils and drums from the Site to the selected disposal facility. Copies of these documents will be included in the Final Report.

6.1.3 Incident Log (If Any)

An incident log shall be kept to document discharges and spills within the Site. The incident log shall detail specific information relative to the nature of the discharge or spill, the type of substance discharged/spilled, the type of impact to the environment (air, water, or soil), any corrective actions taken, and any measures taken to prevent another incident from occurring.

6.2 Field Considerations

During the course of removal activities, field conditions may vary or change from anticipated or planned conditions. It is for these reasons that minor adaptations or slight modifications must be made in the field to ensure that effective pollution prevention and control measures are implemented.

For this project, a qualified field representative will be present during the handling of contaminated soils and liquids. This individual will be responsible for making the initial determination that current engineering controls are adequate.

If it is determined that there is a possibility that existing control methods are ineffective, work shall cease until a revised control procedure can be implemented.